CONCENTRATED ANIMAL FEEDING OPERATION
FOLLOW-UP INSPECTION
APRIL 3, 2014
Ex. 6 (Personal Privacy) FARMS INC.
ST. HENRY, OHIO

U.S. Environmental Protection Agency
Office of Enforcement and Compliance Assistance
Region 5 - Cleveland Office
25063 Center Ridge Road, Westlake, OH 44145

I. PERMITEE IDENTIFICATION

A. Facility Name and Address

Ex. 6 (Personal Privac Farms Inc.
Ex. 6 (Personal Privacy)
Ex. 6 (Personal Privacy)

B. Responsible Official

Ex. 6. (Personal Privacy) (Operator/President for Ex. 6 (Personal Privac Farms Inc.)

C. NPDES Permit

At the time of inspection, this facility was not operating under an NPDES permit.

D. Receiving Waters

From the designed overflow outlets of the constructed wetland at the farm, water would sheet-flow approximately 0.1 miles northwest over the adjacent field (at the time of inspection field was tilled) to a grassed swale that runs east to west along the north edge of the field. The grassed swale flows west approximately 0.4 stream miles before it joins with an intermittent headwater (dotted blue line on USGS topographic map) of Burntwood Creek. The intermittent headwater is a deep agriculture ditch which runs approximately 0.5 stream miles before reaching its confluence with Burntwood Creek. Burntwood Creek is tributary to Coldwater Creek which flows into the western end of Grand Lake Saint Mary's.

II. DATE OF INSPECTION

April 3, 2014

III. PARTICIPANTS

A. Owner /Operator/Partners

Ex. 6 (Personal Privacy) Farms Inc. (Owner)
Ex. 6. (Personal Privacy) (Operator and President of Ex. 6 (Personal Privac Farms Inc.)
Ex. 6. (Personal Privacy)

B. Ohio Department of Natural Resources
Frances Springer, Natural Resources Administrator
Division of Soil and Water Resources
Telephone: (419) 586-3289

C. Ohio Environmental Protection Agency
Hunter Young, Environmental Specialist
Division of Surface Water – CAFO Unit
Telephone: (614) 728-2397

D. U.S. EPA
Anne Marie Vincent, Life Scientist
Telephone: (440) 250-1720

Paul Novak Jr., Geologist
Telephone: (440) 250-1714

IV. INTRODUCTION

On April 3, 2014, Anne Marie Vincent and Paul Novak conducted a follow-up inspection at [redacted] Farms Inc., St. Henry, Mercer County, Ohio (Attachment 1). The facility was selected by USEPA Region 5 Water Division. The inspection included presentation of credentials to [redacted] of [redacted] Inc., an opening discussion and brief interview; a site walk-through of the production area, a reconnaissance of the constructed wetland used to address storm water run-off from the open cattle lot; sampling at three locations, photographs taken while conducting the walk-through (Attachment 2); and a close-out meeting. Region 5 biosecurity procedures including a pre-inspection and post-inspection car wash for the government vehicle and inspectors donning disposable over boots during the site walk-through were followed. Frances Springer, Natural Resource Administrator for the Ohio Department of Natural Resources (ODNR) - Division of Soil and Water Resources; and Hunter Young, an Environmental Specialist with Ohio EPA Division of Surface Water – CAFO Unit were also present for the inspection.

V. PURPOSE

The purpose of the follow-up inspection was to observe any changes to the storm water management onsite, particularly the wetland which was constructed by the facility to address storm water flow from the non-vegetated dirt cattle lot on the property; walk the overland sheet flow from the wetland overflow point; observe any nearby receiver pipes or surface waters; gather information on the number of field tile blowouts since the last inspection; identify any new animal confinement structures or storage structures and possibly collect samples associated with the constructed wetland overflow points. The [redacted] Farms Inc., facility on [redacted] was initially inspected on April 20, 2011 by Cheryl Burdett, Region 5 U.S. EPA. At that time, storm water run-off from the open cattle lot was observed to be flowing from the lot into the adjacent field to the north. In addition, the facility had a field tile blow-out just north of the production area, which they repaired by the following day. A grassed drainage swale at the northern edge of the field subsequently flows into the beginning of the unnamed headwaters of Burntwood Creek which flows to Coldwater Creek which is tributary to Grand Lake Saint Marys. At the time of the initial inspection the facility had plans drawn up for construction of the wetland; however, construction had not begun. The [redacted]. facility was one of several facilities chosen for inspection in FY 2014 by USEPA Region 5 Water Division.

VI. BACKGROUND

According to Ex. 6. (Personal Privacy) the farm is owned and operated by Ex. 6 (Personal Privac Farms Inc., with Ex. 6. (Personal Privacy) serving as the President. Ex. 6. (Personal Privacy) is also the onsite operator. The farm consists of approximately 750 beef cattle and 17,000 chickens. These are the animal population numbers utilized in the farm's CNMP according to Ex. 6 (Personal Privacy). Ex. 6 (Personal Privacy) was offered the opportunity to make a Confidential Business Information (CBI) claim during the inspection, but did not make a CBI claim.

VII. SUMMARY OF FINDINGS

GENERAL FACILITY INFORMATION

Based on Mercer County Auditor records for the property, the facility is situated on a 120 acre parcel. The production area (not including surrounding crop fields and the family home) consists of approximately 20 acres. Of the 20 acres of production area, the cattle lot is approximately 6 acres and the wetland area is 1 acre of water and 2.6 acres of grassed area according to Ex. 6. (Personal Privacy). According to Ex. 6 (Personal Privacy) the farm has a cattle population of approximately 750 animals. He also has approximately 17,000 chickens on site Ex. 6. (Personal Privacy) Ex. 6. (Personal Privacy) confirmed that these numbers correlate to the animal numbers used for the CNMP. Chickens are housed in a poultry barn. Litter is managed in the same way as was discussed in the 2011 U.S. EPA inspection. Since the 2011 inspection, Ex. 6 (Personal Privacy) has built a new cattle/manure storage barn which has a concrete floor.

No crops, vegetation or forage growth are sustained over any portion of the production area where the animals are kept. There is a fenced, cattle lot on the east side of the production area. At the time of the 2014 inspection, the cattle lot did not have any grass or other vegetation present. The cattle lot is approximately 6 acres in size according to the Mercer County Auditor's GIS website. In order to address the storm water run-off from the open cattle lot, Ex. 6 (Personal Privacy) constructed a wetland to the north of the cattle lot.

WATERWAYS and RECEIVING WATERS

Animals do not have direct access to waters of the U.S. and/or its tributaries at the Ex. 6 (Personal Privac Farms facility at Ex. 6 (Personal Privacy). There are no storm water pathways entering the production area from off site.

There is a grassed drainage swale which runs along the north edge of the tilled crop field which is north of the production area. The grassed drainage swale flows west/northwest approximately 0.4 stream miles before it joins with an intermittent headwater (dotted blue line on USGS topographic map) of Burntwood Creek. The intermittent headwater is a deep agriculture ditch which runs approximately 0.5 stream miles before reaching its confluence with Burntwood Creek. Burntwood Creek is tributary to Coldwater Creek which flows into the western end of Grand Lake Saint Mary's. The confluence of Burntwood Creek into Coldwater Creek is approximately 1.5 stream miles upstream of Grand Lake Saint Marys.

Burntwood Creek is identified with the following use designations in the State of Ohio Water Quality Standards OAC Chapter 3745-1-29 July 1, 2014 Revision: warmwater aquatic life habitat, agricultural water supply, industrial water supply, and primary contact recreation. Burntwood Creek is not listed in the *Ohio 2012 Integrated Water Quality Monitoring and Assessment Report Section L4. Section 303(d) List of Prioritized Impaired Waters* or the *Draft Ohio 2014 Integrated Water Quality Monitoring and Assessment Report Section L4. Section 303(d) List of Prioritized Impaired Waters*. However, Coldwater Creek, which Burntwood Creek is tributary to, is listed in both the 2012 and 2014 integrated reports and the State of Ohio Water Quality Standards OAC Chapter 3745-1-29 July 1, 2014 Revision. The OAC Chapter 3745-1-29 July 1, 2014 Revision identifies Coldwater Creek with the following use designations: warmwater aquatic life habitat, agricultural water supply, industrial water supply, and primary contact recreation. For Coldwater Creek (HUC 05120101 02 03), the beneficial use for human health is listed in both integrated reports as "Impaired; TMDL needed" based on historical data. The beneficial use for recreation is listed in both reports as "Impaired" with a completed TMDL and the listing is "retained from the Ohio 2008 Integrated Report." The beneficial use for aquatic life is listed in both reports as "Impaired" based on historical data and there is a completed TMDL.

Grand Lake Saint Marys is identified with the following use designations in the State of Ohio Water Quality Standards OAC Chapter 3745-1-29 July 1, 2014 Revision: exceptional warmwater aquatic life habitat, public water supply, agricultural water supply, industrial water supply, and primary contact recreation. Recreational criteria established for areas defined as bathing waters apply within the confines of the public beaches located at the state park. Grand Lake Saint Marys is listed in both the *Ohio 2012 Integrated Water Quality Monitoring and Assessment Report Section L4. Section 303(d) List of Prioritized Impaired Waters* and the *Draft Ohio 2014 Integrated Water Quality Monitoring and Assessment Report Section L4. Section 303(d) List of Prioritized Impaired Waters.* The beneficial use for human health is listed in both reports as "Impaired; TMDL needed." The beneficial use for recreation is listed in both reports as "Impaired" with a completed TMDL and the listing is "retained from the Ohio 2008 Integrated Report." The beneficial use for aquatic life is listed in both reports as "Impaired" based on historical data and there is a completed TMDL.

The listing for Grand Lake Saint Marys also has the public drinking water supply beneficial use listed as "Use attaining" in the *Ohio 2012 Integrated Water Quality Monitoring and Assessment Report Section L4. Section 303(d) List of Prioritized Impaired Waters.* In the *Draft Ohio 2014 Integrated Water Quality Monitoring and Assessment Report Section L4. Section 303(d) List of Prioritized Impaired Waters*, the public drinking water supply beneficial use listing for Grand Lake Saint Marys is changed from "Use attaining" in 2012 to "No waters currently utilized for water supply."

WASTE HANDLING, TREATMENT, AND/OR MANAGEMENT OPERATIONS

Confinement and Bedding

Confinement areas and structures have not changed since the 2011 inspection except that a new cattle barn with an area for covered solid manure storage was recently constructed at the southern edge of the production area. Attachment 3 contains an annotated aerial picture of

the production area. The new barn is a roofed "A-frame" barn approximately 64' by 304' with a solid concrete floor according to [redacted] (Attachment 2, Photographs 15 and 17). The eastern 3/5ths of the new barn is used to house cattle. At the time of the 2014 inspection, there were approximately 200 head of cattle in the newly constructed barn. According to [redacted] the intended plan is to move as many cattle as he can from the outdoor cattle lot into the new barn as soon as possible. The intent is that during wet/inclement weather the outdoor cattle lot will not be utilized. During the drier weather and seasons, the cattle lot can be used. Some cattle are also kept in total confinement under roof in hoop barns just as they were during the 2011 inspection. Chickens are kept in a separate barn for egg laying operations.

The western 2/5ths of the barn is used for bedding material storage and solid manure storage (Attachment 2, Photograph 16). [redacted] is using sawdust and corn fodder for bedding in the barns. Straw also appeared to be used in several of the smaller cattle hoop barns.

Manure and Storage Structures

There are no manure lagoons on site. [redacted] manages the cattle manure as pen pack solids on site. There is no manure collection for the open cattle lot area. The only change in manure management since the 2011 inspection is that [redacted] has a newly constructed cattle barn on the south end of the production area which has 2/5ths of the barn area set aside for solid manure stacking for storage during times when it cannot be land applied.

Mortality Management

According to [redacted] mortalities are composted on site. During the site walk-through I observed the compost pile. It is staged inside the east end of the older roofed cattle barn across from the newly built cattle/manure barn. The compost pile is completely under cover within the roofed barn (Attachment 2, Photograph 14).

Feed and Silage Storage

At the time of inspection unwrapped hay bales were stored on the bare ground between the west fence of the outdoor cattle lot and the east end of the chicken barn. White silage bags were also observed just south of the hay bales also staged on the bare ground (Attachment 2, Photograph 1). I also observed a white silage bag staged in the tilled field north of the chicken barn which can be seen in the background of Photograph 7. I observed a small pile of waste feed in the tilled field just south of the new cattle/manure storage barn (Attachment 2, Photograph 19).

Storm Water Management

The following paragraphs detail storm water flow as observed during the rain event at the 2014 inspection. [redacted] has excavated an earthen storm water collection pit along the northwest corner of the cattle lot. Storm water run-off from the cattle lot flows into the southwest corner of the collection pit (Attachment 2, Photographs 8, 9, 10 and 13). Once full, this collection pit would overflow across the dirt and grassed areas between the pit and the constructed wetland. The overland flow from the pit then flows into the southern edge of the constructed wetland. During the 2014 inspection, I did observe storm water run-off from the center of the cattle lot by-

passing the excavated collection pit (Attachment 2, Photograph 11 and 10). Some of this overland storm water run-off by-passing the pit was observed to flow into the constructed wetland and some of the run-off was also observed to be flowing into and across a tilled field just northeast of the cattle lot (east of the wetland) (Attachment 2, Photographs 11 and 12). The cattle lot run-off which by-passed the collection pit and flowed into and across the tilled field just northeast of the cattle lot (east of the wetland) did not appear to leave the field. From the designed principal overflow and emergency overflow of the constructed wetland, water would sheet-flow approximately 0.1 miles northwest over the adjacent field (at the time of inspection field was tilled) to a grassed swale that runs east to west along the north edge of the field. The grassed swale flows west approximately 0.4 stream miles before it joins with an intermittent headwater (dotted blue line on USGS topographic map) of Burntwood Creek.

Photograph 7 shows the approximate location of the emergency (high level) overflow point for the wetland. Photographs 4, 5 and 6 show the principal overflow location and the direction of flow into the adjacent tilled field. Flow from the emergency overflow point flows slightly north/northeast and joins with the flow of water from the wetland's principal (low level) overflow. The joined flow (Attachment 2, Photograph 6) then flows across the tilled field. Photographs 20, 21, 22, 23, 24 and 25 show the flow path (from various angles) of the wetland discharge. Photograph 26 shows the increased volume of overland sheet flow due to precipitation compared to Photographs 20 and 21 of the same general area earlier in the inspection. Photograph 27 shows the increased volume of overland sheet flow and increased run-off volume in the grassed swale compared to the same general location in Photograph 22. Photograph 28 shows the increased storm water volume in the grassed drainage swale from the overland sheet flow compared to the volume observed in Photograph 24. Photograph 29 shows the increased flow in the grassed drainage swale at the Fleetfoot Road concrete culvert compared to the flow seen in Photograph 25.

Storm water run-off flows north down the dirt lane between the stacked hay bales and plastic rolls of silage just west of the open cattle lot. Generally, storm-water run-off flows from the south end of the production area, to the north side of the property (Attachment 2, Photograph 1, 2 and 3). Storm water from the gravel and dirt area at the east ends of the newer cattle/manure barn and older southern cattle barn appeared to flow north, following the grade of the dirt lane that runs north and south from the new barn to the wetland area. Storm water from the concrete pad between the new cattle/manure barn and the older southern cattle barn was observed to flow west into a gravel and dirt area and then around the west end of the new cattle/manure barn and into a tilled field to the south (Attachment 2, Photographs 17, 18 and 19). The sheet flow in the field did not appear to be leaving the field area.

Photographs 31 and 32 show the upstream and downstream views of the unnamed agricultural ditch/headwater tributary to Burntwood Creek where it crosses under Lange Road. This is the first accessible view of the downstream surface water after the grassed drainage swale crossed under Fleetfoot Road. Photographs 33 and 34 show the upstream and downstream views of Burntwood Creek where it crosses

under Fleetfoot Road. This is the first accessible view of Burntwood Creek after the surface water body changes from an unnamed headwater to a named creek. Photographs 35 and 36 show the upstream and downstream views of Burntwood Creek where it crosses under Kremer Hoying Road, east of Fleetfoot Road. This is the first accessible view of the downstream surface water after the grassed drainage swale crossed under Fleetfoot Road. The next confluence of Burntwood Creek into Coldwater Creek is not viewable from a public roadway. Coldwater Creek discharges into the western end of Grand Lake Saint Marys.

The wetland was constructed using CRP funding in July of 2011, after the last U.S. EPA inspection. According to Frances Springer, the wetland was not designed for any specific rainfall event volume (i.e. 24-hour 100 year storm). According to Ex. 6. Ex. 6. (Personal Privacy), the wetland was constructed by a contractor. The water area for the wetland is approximately 1 acre and the grassed area is approximately 2.6 acres according to Ex. 6. (Personal Privacy) The deepest area within the wetland is 3 feet deep. A depth marker was installed in the wetland. The wetland was constructed with a 15 to 1 grade with a principal overflow (low) level overflow and an emergency (high) level overflow according to Ex. 6. (Personal Privacy) Two field tiles had to be removed and rerouted in order to properly construct the wetland.

Manure Management Plan and Land Application

Ex. 6 (Personal Privacy) Farms Inc. has a Comprehensive Nutrient Management Plan (CNMP). The CNMP was approved on 01/31/13 and is in effect for three years, at which time there is a renewal process. The required records for land application and manure management to comply with the CNMP were available on site for review. In addition to the field soil analysis and manure analysis required under the CNMP, Ex. 6. (Personal Privacy) must also collect water samples quarterly from the wetland. He is using proper chain-of-custody forms for his sampling activities. Ex. 6. Ex. 6. (Personal Privacy) did state that originally, the laboratory he was using for the wetland water samples analysis was analyzing the samples with an incorrect method. For phosphorus analysis the laboratory was using EPA 300.0 and then EPA 350.1 for Nitrogen-Ammonia analysis. In October 2013, the error was recognized and the laboratory began using SM 4500P for the phosphorus analysis (noted as "phosphate-ortho" on the laboratory analysis reports maintained by Ex. 6. (Personal Privacy) as required by the CNMP.

Results from the July 2013 and October 2013 wetland water sampling by Ex. 6. (Personal Privacy) are included in the following table.

Analyte	Date	Method	MDL	Result
Nitrogen-Ammonia	July 2013	EPA 350.1	0.3 mg/l	10.4 mg/l
Phosphate-Ortho	July 2013	EPA 300.0	0.01mg/l	5.39 mg/l
Nitrogen-Ammonia	October 2013	EPA 350.1	0.3 mg/l	0.699 mg/l
Phosphate-Ortho	October 2013	SM 4500P	0.01 mg/l	0.012 mg/l

Key:
mg/l: milligrams per liter
MDL: Minimum Detection Limit

[redacted] is also required to document weekly wetland depth readings from the depth marker in the wetland. He is also required to document all sheet flow discharges from the principal and emergency overflow outlets from the wetland. Those records were present on site. During the 2014 inspection, the level of storm water volume in the wetland was so high, that the depth marker was submerged and the wetland was discharging from both the principal (low level) overflow point and emergency (high level) overflow point.

DISCHARGES/ISSUES OF CONCERN

As discussed in the *Storm Water Management* section of this report, there were three areas of overland storm water run-off from the production area. At the time of inspection, the constructed wetland (funded with CRP funding) was discharging from both its principal overflow (low level) and the emergency overflow (high level). This discharge created a sheet flow flowing overland, through a tilled crop field and into a grassed drainage swale which is tributary to an intermittent headwater of Burntwood Creek. According to Ms. Springer with ODNR, the wetland was not designed for any specific rainfall event volume (i.e. 24-hour 100 year storm).

The second occurrence of production area storm water run-off originated from the center of the cattle lot, flowed past the small settling pit adjacent to the cattle lot and continued to flow into the tilled field just east of the constructed wetland and northeast of the cattle lot. However, once in the tilled field, the storm water appeared to be pooling in the field and did not appear to be leaving the field via overland flow. A portion of the storm water run-off from the center of the cattle lot did flow into the southeast corner of the constructed wetland.

The third occurrence of production area storm water run-off originated from the concrete pad between the new cattle/manure barn and the older southern cattle barn. I observed the storm water flowing west into a gravel and dirt area, then around the west end of the new cattle/manure barn and into a tilled field to the south. The storm water sheet flow into the tilled field where it was pooling in ruts and furrows did not appear to be leaving the field via overland flow.

SAMPLING

On April 3, 2014, during the site walk-through we observed the constructed wetland discharging as designed from both the principal overflow and the emergency high level overflow points. There was a steady heavy rain event occurring at the time of the inspection and sampling. The discharge from the constructed wetland overflows was flowing overland approximately 0.1 miles northwest over the adjacent tilled crop field and narrow grassed area to a grassed swale that runs east to west along the north edge of the field. The grassed swale flows west approximately 0.4 stream miles before it joins with an intermittent headwater (dotted blue line on USGS topographic map) of Burntwood Creek (Attachment 2).

Paul J. Novak and I collected three sample sets. The first sample set, "S01", was collected from the grassed drainage swale just before it enters the concrete culvert pipe which crosses under Fleetfoot Road (Attachment 2, Photograph 29). This first sample was furthest away downstream from the wetland overflows. The second sample set, "S02", was collected where the overland flow from the wetland discharge enters the grassed drainage swale just

north of the tilled crop field (Attachment 2, Photograph 28). The third sample set, "S03", was collected from the area of the emergency high level overflow for the wetland (Attachment 2, Photograph 30). Attachment 5 contains the annotated aerial picture of the flow path to Burntwood Creek. Total Suspended Solids (TSS), Total Dissolved Solids (TDS), Total Phosphorus (Total P), Ammonia as Nitrogen (Ammonia as N), Nitrate-Nitrite Nitrogen (NO_2- NO_3), and Total Kjeldahl Nitrogen (TKN) analyses were to be performed by U.S. EPA Region 5 Chicago Regional Laboratory (CRL). The samples were stored on ice after collection and the sample bottles for TKN, NO_2- NO_3, Total P and Ammonia as N were dosed with 2 milliliters of H_2S0_4 preservative. The samples for these analytes were then shipped on ice via UPS Next Day Air and delivered to the U.S. EPA Region 5 Chicago Regional Laboratory (CRL) for analysis. The samples for Fecal Coliform and Biochemical Oxygen Demand (BOD) were stored on ice after collection and transported directly to Alloway Laboratories in Lima, Ohio on April 3, 2014. The table below summarizes the laboratory results for samples S01, S02 and S03. Sample analysis data sheets from Alloway and CRL are provided in Attachment 6. Temperature and pH parameters were measured in the field at the time of sampling. Those results are listed below in Table 2.

Table 1 Sample Analysis Results Summary

Sample	Analysis Parameters							
	BOD (mg/L)	TSS (mg/L)	TDS (mg/L)	Ammonia as N (mg/L)	TKN (mg/L)	NO_2- NO_3 (mg/L)	Total P (mg/L)	Fecal Coliform (per 100 mL)
S01	< 20	1150	317	0.84	2.62	1.62 J	1.25	1100
S02	22	560	438	7.6*	6.30	2.34 J	1.97	200
S03	< 20	177	474	10.6*	19.8**	0.37 J	4.57*	320

Key:

mg/L = Milligram per Liter
* = Dilution factor of 10
** = Dilution factor of 2
J = The identification of the analyte is acceptable; the reported value is an estimate

Table 2 Field Analysis Parameters

Sample	Field Analysis Parameters	
	Temperature (°Celsius)	pH
S01	17.9°	7.09
S02	8.1°	7.93
S03	11.2°	8.00

U.S. EPA Forms:

EPA Form 3560-3 is included in Attachment 7. The Inspection Conclusion Data Sheet is included in Attachment 8.

LIST OF ATTACHMENTS

Attachment	Description
1	Site Location Map
2	Inspection Photograph Log
3	Production Area Annotated Aerial Map
4	Annotated Aerial Map of Flow Path to Burntwood Creek
5	Annotated Aerial Map of Sample Locations
6	Sampling Data Packages and Chain of Custody Forms
7	EPA Form 3560-3
8	Inspection Conclusion Data Sheet

ATTACHMENT 1
Site Location Map